



PROFESSIONAL EDUCATION/DESIGNATION:

Master of Arts, Public Administration, Carleton University, 1986
Leadership Challenge, Banff School of Management, 1998
Negotiation for Senior Executives, Harvard Business School, 2004
Chartered Director Designation, Conference Board of Canada, 2006

EMPLOYMENT HISTORY:

2004 – Present **President and Chief Executive Officer, Yukon Energy Corporation, and
Chief Executive Officer, Yukon Development Corporation**

Responsible for the day to day management of the two Corporations. Completed construction of a new transmission line. Established new contracting and procurement standards and systems. Established training program for Directors and new corporate governance systems. Completed special examination audits for Yukon Energy. Developed and established new financial management and accountability systems for the corporations. Developed and implemented new business planning and budgeting processes. Negotiated new financing arrangements for the reduction of high cost debt. Established new management reporting and information standards.

2003 – 2004 **Chairman, Yukon Energy Corporation, Yukon Development Corporation
& Energy Solutions Centre Inc.**

Chair Board of Directors of the three Corporations with a Mandate to: review existing systems and establish new Governance systems; undertake a review of financial management systems and implement new systems; resolve capital project management problems and implement new systems; implement Board Governance training and Director development program.

**2001 – 2003 and
1989 – 1995** **President, Morrison & Associates, Management Consultants**

Provided consulting services focusing on issues of governance, public sector and privatization, regulatory and advisory issues, and private sector corporate operations. Clients included: the City of Ottawa, Northwest Territories Power Corporation, Northern Canada Power Commission, Office of the Auditor General of Canada, Ft. McKay First Nation, Government of Yukon, Government of Northwest Territories, the Whitehorse Chamber of Commerce, Praxair Canada, Strathcona County, and Foothills Pipelines.

1995 – 2000

Vice- President of Operations, Tirecraft Auto Centers Ltd.

Responsible for the day-to-day management and profitability of Corporate stores for retail tire Chain with 135 stores across Canada and sales of \$180 million annually. Overall Corporate responsibility for: Strategic Planning, Commercial Sales, Marketing, Supplier Relationships, Human Resource Management, Training, Credit, Inventory Management, Property Management, MIS and implementation of a corporate e-commerce strategy.

1987 – 1988

Assistant Chairman Northern Canada Power Commission

Responsible for the operation of \$250 million electric public utility with 400 employees and 56 generating plants located throughout the Northwest Territories and Yukon. Led the Company through a turnaround and to profitability. Successfully negotiated several collective agreements. Negotiated the privatization/sale of the Company. Managed staff transition and change to a new Collective Bargaining unit. Prepared and implemented re-organization, staff consolidation and relocation plan.

1981 – 1987

Corporate Secretary and Special Advisor to the Chairman Northern Canada Power Commission

Responsible for all Board related matters including: Strategic Planning, Major Contract negotiations, Risk and Property Management, Corporate Policies, and Regulatory Affairs. Secretary of the Board and Principal Advisor to the Chairman and Members of the Board. Responsible for all Intergovernmental liaison including; Federal Regulatory filings, negotiations with Federal Treasury Board, Department of Finance and Indian and Northern Affairs.

1980 – 1981

Principal Secretary to the Premier Government of Yukon

Principal advisor to the Government Leader and Caucus. Interfaced between Government leader and general interest groups. Acted as a liaison with local and national media. Acted as a liaison with senior federal and provincial government officials. Prepared speeches and policy papers. Provided advice and guidance on all government programs. Appeared before Parliamentary Committees on behalf of the Government. Managed Government's legislative and policy agendas.



PROFESSIONAL EDUCATION/DESIGNATION:

B.Sc. Mechanical Engineering, University of Calgary, 1974
Professional Engineer certification, Alberta 1976, Yukon 1990
Information Systems Professional certification, 2002
Executive MBA, Athabasca University, started Jan 2006, estimated date of completion 2008

EMPLOYMENT HISTORY:

1998 – Present	Director, Resource Planning & Regulatory Affairs, Yukon Energy Direct involvement in the operation and management of Yukon Energy since 1990. Member of the management team of Yukon Energy from 1998 to present. Involvement in all of Yukon Energy related Yukon Utility Board and Yukon Territorial Water Board applications and hearings since 1990. Responsibilities include planning, environmental and financial regulatory review of generation, transmission and distribution systems and business development.
1990 – 1997	Manager of Energy Supply, Yukon Electrical Company Ltd Responsible for capital, operating and maintenance programs for power plants in the Yukon. Member of Yukon Electrical management team. Involved in all Yukon Electrical YUB applications and hearings from 1990 to 1997.
1987 – 1990	Superintendent of Plant Engineering, APL Battle River Power Station Responsible for 750 MW station capital plan and engineering activities.
1981 – 1987	Senior Control and Instrumentation Engineer, Shawinigan-Integ Inc (SII) Consulting Engineers Lead responsibilities for detailed instrumentation design of a new 800 MW coal fired power station owned by the City of Edmonton.
1976 – 1981	Telecontrol Department and Instrumentation Engineer positions for APL Hardware and software commissioning and support of SCADA systems. Responsible for design of instrumentation and control systems for a new 375 MW coal-fired power station.
1974 – 1976	Systems Programmer, J.H. Schwartz & Associates Real-time systems programmer for utility applications.

EDUCATION: **Simon Fraser University**

M.A. (Economics) 1968

University of Toronto Law School

1964-1965

University of Manitoba

B.A. (Philosophy) 1964

**PROFESSIONAL
HISTORY:**

InterGroup Consultants Ltd.

Winnipeg, MB

1974 - Present

*Founding partner and President of InterGroup Consultants Ltd.
(formerly InterGroup Consulting Economists Ltd.).*

2000 - 2006

Director, CBT Energy Inc.

Strategic planning and multi-disciplinary project team management experience, based on resource and regional economics expertise relating to mining, energy (particularly hydro-electric generation and renewable liquid energy fuels), and downtown tri-government urban development projects.

Detailed project experience is outlined below separately under each of the following headings:

- Socio-Economic and Environmental Assessment & Related Public Consultation – Mining, Hydro-electric, Forestry and Other Major Projects
- Strategic Planning & Multi-disciplinary Project Team Management – Resource, Regional and Urban Development Projects
- Compensation and Monitoring Related to Resource Project Impacts
- Utility Regulation – Expert Analysis and Testimony at Hearings
- Resource Rent, Royalty and Tax Policy – Related Expert Evidence
- Other Strategic Planning and Assessment

Socio-Economic and Environmental Assessment & Related Public Consultation – Mining, Hydro-electric, Forestry and Other Major Projects

- For Yukon Energy Corporation (2005-Present), Project Principal regarding ongoing 138 kV Carmacks-Stewart Transmission Project activities related to preparation of YEC" Project Proposal Submission to the Yukon Environmental and Socio-economic Assessment Board Executive Committee and negotiation of purchase power agreements with mine customers to be served by this project.
- For Manitoba Hydro (1999-Present), Study Leader responsible for socio-economic assessment and planning work in a multi-disciplinary Consultant Management Team retained to assist Manitoba Hydro in the conduct of the environmental assessment programs associated with future planning for three potential hydroelectric generating stations in northern Manitoba, including site selection and environmental assessments for the associated transmission facilities. Provided expert testimony before the Manitoba Clean Environment Commission on the Wuskwatim Generation and Transmission Projects EISs submitted by Manitoba Hydro and Nisichawayasihk Cree Nation.
- For Manitoba Floodway Authority (2003-2005), senior advisor regarding environmental assessment and licencing activities of the proposed Red River Floodway Expansion Project. Provided expert testimony before the Manitoba Clean Environment Commission on EIA study approach, including cumulative effects assessment, regarding the Project EIS submitted by the Manitoba Floodway Authority.
- For Yukon Energy Corporation (1992-2002), advisory reviews of environmental impact assessment work for re-licensing of the Aishihik hydro-generation facility and related expert testimony before the Yukon Territorial Water Board.
- For uranium mining companies in northern Saskatchewan during the 1990's, project director for consultants regarding socio-economic impact assessment, economic impact and cost-benefit assessments, and public consultation design and implementation for the Rabbit Lake expansions (Cameco Corporation, 1991-1993), the McArthur River developments (Cameco Corporation, 1993-1996), the Cigar Lake developments (Cigar Lake Mining Corporation, 1993-1996), and the Rabbit Lake extension (Cameco Corporation, 1999-); provided related evidence and expert witness testimony for the Rabbit Lake federal environmental review panel hearing and the McArthur River developments federal-provincial environmental review panel hearings. Provided advisory review for InterGroup's similar socio-economic and economic impact assessments, and public consultation work for COGEMA related to Cluff Lake mine projects during this period.
- For Cameco, Cigar Lake Mining Corporation and COGEMA (1993-1994), facilitation of an agreement in principle for an impact management

agreement involving seven Athabaska communities (this was one element of the socio-economic/public consultation EIS work related to the McArthur River and CLMC projects).

- For Repap Manitoba, Inc. (1989-1991), project management of the socio-economic impact assessment, and design and implementation of an extensive public consultation program, for the proposed Phase 1 Manitoba expansion.
- For aggregate producers in Ontario during the 1980's and early 1990's, socio-economic impact and resource policy evaluations relating to proposed aggregate developments in southern Ontario (Puslinch, Milton and Niagara Escarpment Planning Area); provision of resource economics expert testimony before the Ontario Municipal Board on behalf of TCG Materials Limited and on behalf of Armbro Aggregate.
- For the City of Winnipeg in the 1990's, socio-economic impact assessment for the new Charleswood and Main/Norwood bridge developments (two separate assignments; provided advisory review for other InterGroup principals who directed this work, as well as assistance in coordination of hearing testimony for the regulatory review of the Charleswood bridge project).
- For the Moosonee Development Area Board (early 1990's), socio-economic counsel in an intervention relating to potential impacts of Ontario Hydro's proposed hydro generation development of the Moose River Basin.
- For Manitoba Hydro in the late 1980's and 1990's, senior advisory review as required by other InterGroup principals carrying out the following assignments: socio-economic impact assessment and public consultation program for the Conawapa hydro generating station EIS (1989-1993); socio-economic impact assessment and public consultation program for the Split Lake transmission line project (joint study with the First Nation, early 1990's); socio-economic impact assessment and public consultation program for the siting and the EIS related to the Winnipeg-Brandon transmission line and Neepawa substation projects (1995-1997); study to review environmental externality and compensation cost modeling for hydro-generation and related transmission line projects (1996-1997). Deputy Project Director for initial environmental assessments study for third Bipole Transmission Lines (1986-1987).
- For Manitoba Hydro in the early-to-mid 1980's, various investigations with respect to the environmental and socio-economic impacts related to planning of new power generation projects in northern Manitoba, including deputy project director for the Burntwood River Environmental Overview Study (1980-1984), and review of InterGroup's work (carried out by senior staff) to prepare the socio-economic assessment and conduct public consultation for the Limestone hydro-electric generating station EIS.
- For Alcan in the early 1980's, management of investigations with respect to the socio-economic impacts of a proposed aluminum smelter in Manitoba.

- For Key Lake Mining Corporation in the early 1980's, expert testimony before the Commission of Enquiry on socio-economic impacts associated with the uranium project at Key Lake.
- For Amok Ltd., in the 1977 Saskatchewan hearings on uranium developments, provided expert testimony before the Bayda Commission of Enquiry on socio-economic impacts associated with the Amok mining project at Cluff Lake.

Strategic Planning & Multi-disciplinary Project Team Management – Resource, Regional and Urban Development Projects

- For Yukon Energy Corporation (2005-Present), project director for preparation of Yukon Energy's 20-Year Resource Plan Submission to the Yukon Utilities Board.
- For the City of Winnipeg and Neeginan Development Corporation (1998), project director responsible for preparation of the Development Plan for the Thunderbird House project on Main Street.
- For Spirit of Manitoba Inc. and Manitoba Entertainment Complex Inc. (1994-1995), responsible for management of all aspects of a project to develop a new downtown entertainment complex and to retain the Winnipeg Jets Hockey Club in Winnipeg; managed the multi-disciplinary team carrying out negotiations, siting, design, costs, feasibility planning, environmental assessments, and other work required to secure approvals under tight deadlines specifically for the new arena component of the project.
- For The Forks Renewal Corporation (a corporation owned by Canada, Manitoba and Winnipeg) during the late 1980's and early 1990's, Development Coordinator responsible for planning and directing initial development and financial activities (1987-1993), including negotiation of land exchange agreements, preparation of a Phase I Concept and Financial Plan, site planning and Stage One projects, roads and services; ongoing financial and strategic planning counsel.
- For Government of Yukon (Department of Economic Development, Mines & Small Business) (1985-1987), management of multi-disciplinary team carrying out financial, economic, legal and strategic planning work relating to the devolution and transfer to Yukon of the Northern Canada Power Commission assets and operations in Yukon; participation in all related negotiations.
- For the East Yard Task Force (comprised of the governments of Canada, Manitoba and Winnipeg) (1985-1986), general advisor and manager for all consultant work (planning and architectural, engineering, financial and legal) related to the redevelopment of a major rail yard area in downtown Winnipeg.
- For North Portage Development Corporation (1984-1987), economics and financial counsel during the initial development phase; coordinator for work relating to corporate financial plans, selection of major developers (retail, housing and office projects), and negotiation of long-term agreements (land

lease, development and other related agreements) with each of the selected developers.

- For Canadian Methanol Canadien during the 1980s, participation in an executive capacity in a partnership venture involving Inter-City Gas Corporation and The M100 Group to develop methanol vehicle fuel [management of multidisciplinary project team involving engineers, planners, financial, legal, and other professionals to demonstrate and develop hybrid (natural gas and wood feedstock) methanol production facilities as well as different market uses for methanol (including use in flexible fuel passenger vehicles)].
- For the Government of Canada in the late 1970's, project director of a major multi-disciplinary study to examine the feasibility of producing liquid fuels (including methanol) from biomass feedstock resources throughout Canada; this study included examination of liquid fuel production options involving the joint use of either electricity or natural gas along with biomass feedstock. The multi-disciplinary consulting team included firms with chemical engineering and forestry expertise.

Compensation & Monitoring Related to Resource Project Impacts

- For Tsay Keh Dene First Nation (2001-Present), expert socio-economic and resource economics assistance with respect to settlement negotiations with BC Hydro and the Province of British Columbia relating to impacts on the Tsay Keh Dene First Nation from the Williston Reservoir developments in the 1970s; related advice regarding the Peace Water Use Planning process.
- For Kwadacha First Nation (2001-Present), expert socio-economic and resource economics assistance with respect to settlement negotiations with BC Hydro and the Province of British Columbia relating to impacts on Kwadacha First Nation from the Williston Reservoir developments in the 1970s.
- For Manitoba Hydro in the 1990's, expert socio-economic and resource economics assistance with respect to claims by the community of South Indian Lake (early 1990's) and by Northern Flood Agreement communities, including the Cross Lake First Nation (1999-Present), related to post-project development impacts from hydroelectric power development.
- For uranium mining companies (1999), project director for the preparation of a draft work plan for a community vitality monitoring program for northern communities in Saskatchewan affected by uranium mining development; the work plan requirement arose out of federal-provincial environmental impact panel hearings on the McArthur River and Cigar Lake mining projects; the work plan was prepared for a working committee with representatives from the three uranium mining companies (Cameco Corporation, COGEMA, and Cigar Lake Mining Corporation), the Saskatchewan Northern Mines Monitoring Secretariat, and the northern Saskatchewan Health Districts.

- For BC Hydro (early 1990's), evaluation of a trust fund proposed to compensate five Lillooet Nation Bands for damages from hydroelectric generation and transmission activities.
- For the Beaufort Sea Steering Committee (early 1990's), review of wildlife compensation program options in the event of an oil spill in the Beaufort Sea.
- For Manitoba Hydro (1989-1990), project management of an independent post-project evaluation of the Grand Rapids Project impacts on Aboriginal communities, including direction of the socio-economic component of the evaluation.

Cost of Service and Rates – Expert Analysis and Testimony at Hearings

- For the Manitoba Industrial Power Users Group (1987-Present), expert testimony before the Manitoba Public Utilities Board in Manitoba Hydro electricity rate hearings, including rate applications in 1987/88, 1989, 1990, 1991, 1992, 1994, 1995, and 1998, and the Manitoba Hydro Major Capital Projects hearing in 1990. Represented MIPUG at hearings before the Board in 1999 to approve the purchase of Centra Gas by Manitoba Hydro.
- For the Yukon Energy Corporation (1989-Present), expert testimony before the Yukon Utilities Board on planning major capital projects (1992) and on electricity costing and rates related to rate applications by Yukon Energy Corporation (1989, 1991, 1993, 1996, 1997, 1998, 2005).
- For Newfoundland Industrial Customers (2001 and 2003), expert testimony before the Board of Commissioners of Public Utilities of Newfoundland and Labrador on electricity costing and rates related to general rate applications by Newfoundland Hydro.
- For the Bruce Municipal Telephone System in the early 1990's, expert economic evidence to the Ontario Telephone Service Commission related to the cost of equity capital.
- For Government of Yukon, expert testimony before the National Energy Board in 1985, expert testimony on costs and rates pertaining to the Northern Canada Power Commission.
- For IPSCO during the 1980's, expert testimony before Saskatchewan Utilities Regulatory Commission hearing on the first and second rate applications by Saskatchewan Power Commission.
- For Stelco, INCO and the Motor Vehicle Manufacturers' Association of Canada, in the 1977-1979 Ontario Energy Board hearings HR5, examining Ontario Hydro's electricity costing and pricing principles; provided consulting advice and expert testimony on the issues and options pertaining to that hearing.
- For a consortium (The Consumers' Gas Company, Union Gas, Northern and Central Gas and the Ontario Ministry of Energy), a 1974 report on natural gas requirements throughout Canada; provided expert testimony before the National Energy Board on this report.

Resource Rent, Royalty and Tax Policy – Related Expert Evidence

- For Regional Municipality of Ottawa Carleton (RMOC) in the mid-1990's, expert resource and regulatory economist evidence before the Ontario Municipal Board on By-Law 234/92, which imposed compensation payments on private landfill operators in the Region.
- For a group of pipeline companies in Ontario (1989-1992), assistance with coordination of expert evidence in an arbitration, and provision of expert evidence on methodology to determine annual rent for pipeline use of a transmission corridor owned by Ontario Hydro.
- For Sun Oil in the 1970's, counsel on preparation of a brief to the Government of Canada on the proposed Federal Land Regulations for Oil and Gas Lands.
- For the Canadian Potash Producers' Association in the 1970's and early 1980's, expert assistance with taxation discussions with Saskatchewan authorities, analysis of the proposed government takeover of the potash industry, and liaison with legal counsel.
- For the Uranerz-Inexco joint venture in the 1970's, participation in discussions between the Saskatchewan Government and the uranium industry concerning uranium taxation revisions; provided economic counsel for these discussions.
- For the Mining Association of British Columbia in the 1970's, expert testimony before the Commission of Enquiry into property taxation in that province.
- For the Mining Association of Canada in the 1970's, preparation of analytical models for comparison of different mineral taxation structures.
- For Canadian Industrial Oil and Gas Ltd. In the 1970's, analysis of the public policy aspects of Saskatchewan Bill 42 relating to taxation (advice to legal counsel related to a court case).

Other Strategic Planning and Assessment

- For Manitoba Hydro (1999-Present), assistance on various matters, including policy reviews related to debris management programs and planning related to US market consultations.
- For the Yukon Energy Corporation and the Yukon Development Corporation (1987-Ongoing), financial and strategic planning counsel on major issues, including rate policy planning (see also Utility Regulation), major capital planning issues (see also Environmental Assessment), management agreement arrangements, and negotiations between YEC and various owners of the Faro mine.
- For the Northern Manitoba Economic Development Commission (1991-1992), participation in the preparation of two reports, contributing to the Commission's Sustainable Economic Development Plan for Northern Manitoba for the 1990s.

- For Regional Municipality of Ottawa Carleton (RMOC) during the 1990's, economic assessments of options to extend the life of the Trail Road Landfill site.
- For Metropolitan Toronto (late 1980's), economic analysis of the best available technology for the utilization of the landfill gas resources at the Keele Valley Landfill site.
- For a western energy company (early 1990's), preparation of a Cost-Benefit Analysis of a 160 MW co-generation project, assessment of the implications of the project for Manitoba Hydro, and participation in the discussions between the company and Manitoba Hydro.
- For Western Economic Diversification (late 1980's), assessment of Winnipeg tri-government development corporation cash flow scenarios.
- For the Government of Manitoba during the late 1980's and early 1990's, advice and assistance in the preparation of proposal calls for the redevelopment of a historically significant site in Winnipeg, as well as participation in the developer selection and negotiation process.
- For the Canadian Electrical Association in the late 1970's, management of interdisciplinary team investigations with respect to the impacts of proposed federal atmospheric emission control guidelines on Canadian electrical generating industry thermal power stations.

**Hedlin Menzies/Acres Consulting Services
Hedlin Menzies & Associates Ltd.**

Winnipeg, MB

1968 - 1974 *Manager and Senior Consultant*

1968 - 1974 *Research Economist*

Project manager of major studies involving regional resource and cost-benefit impact policy issues relating to prairie manufacturing, prairie elevator and transportation rationalization, Manitoba Hydro northern development activities, Canadian energy requirements and research and development priorities, alternative export policies for natural gas, Canadian Merchant Marine development options, alternative rail route options in the Yukon and northern British Columbia, and various mineral resource policy options pertaining to mining development and taxation.

Sessional lecturer on mineral economics for one year at the University of Manitoba's Natural Resources Institute.

**RESEARCH
PAPERS:**

"The Process of Urbanization in Canada, 1600-1961." Simon Fraser University (M.A.) Thesis. 1968.

- "Technological Change and the Economics of Agricultural Development." Simon Fraser University (M.A.) Thesis. 1968.
- "Economic Analysis of Short-Term Alternatives Regarding Southern Indian Lake in Manitoba" (joint work with Dr. A.M. Lansdown, P.Eng., 1969).
- "A New National Development Policy for Canada: The Relevance of Western Canada." Prepared for the Liberal Conference on Western Objectives. 1973.
- "Canada's Gains and Losses from Oil Export Taxes" (joint work with Dr. R.W. Fenton, 1973).
- "Resource Management Factors Influencing Mineral Development in North Central Canada." Paper presented to the annual western meeting of the Canadian Institute of Mining and Metallurgy, Winnipeg, October 7, 1974.
- "Energy, Provincial Rights and Canadian Unity." 1973.
- "An Evaluation of 'An Energy Policy for Canada' " (joint work with Dr. R.W. Fenton, 1973).
- "Resource Management Factors Influencing Manitoba Mining." Natural Resources Institute, University of Manitoba. 1974.
- "Liquid Fuels from Renewable Resources in Canada: Systems Economic Studies." Paper presented to the Institute of Gas Technology Symposium on Energy from Biomass and Wastes, Washington, DC. August 1978.
- "Canadian Scenario for Methanol Fuel." Paper presented to the Alcohol Fuels Technology Third International Symposium, California, January 1979.
- "Socio-Economic Impacts from Potential Canadian Methanol Fuel Development." Paper presented to the IV International Symposium on Alcohol Fuels Technology, Brazil. October 1980.
- "Canadian Methanol Development Using Natural Gas and Wood Feedstocks." Paper presented to the First IEA Conference on New Energy Conservation Technologies and their Commercialization, Berlin. April 1981.
- "Methanol as an Alternative Automotive Fuel: CMC's Approach and Experience." Paper presented to the West Coast International Meeting of the Society of Automotive Engineering, Vancouver, BC. August 1983.

"Status of CMC Fuel Methanol Production and Market Development Programs."
Paper presented to the VI International Symposium on Alcohol Fuels
Technology, Ottawa. May 21-25, 1984.

EDUCATION: **University of Manitoba**
MNRM (Natural Resource Management), 1998

Prescott College
BA (Human Development and Outdoor Education), 1994.

**PROFESSIONAL
HISTORY:**

InterGroup Consultants Ltd.

Winnipeg, MB

1998 – Present *Research Analyst/Consultant/Principal*

Regulatory economic analysis and socio-economic impact assessment experience, primarily in the energy field.

Utility Regulation

Conducted research and analysis for regulatory reviews of electrical and gas utilities in four Canadian provinces. Prepare evidence and review testimony for regulatory hearings. Assist in utility capital and operations planning to assess impact on rates and long-term rate stability.

- **For Yukon Energy Corporation (1998-present)**, analysis and support of regulatory proceedings and normal regulatory filings before the Yukon Utilities Board. Appear before YUB as expert on revenue requirement matters. Prepare analysis of major capital projects, financing mechanisms to reduce “rate shock” to ratepayers, as well as revenue requirements.
- **For Yukon Development Corporation (1998-present)**, prepare analysis and submission on energy matters to Government round table on competitiveness of Yukon economy. Coordinate development of options for government rate subsidy program. Assist with review of debt purchase, potential First Nations investment in utility projects, and corporate governance.
- **For Northwest Territories Power Corporation (2000-present)**, provide technical analysis and support regarding General Rate Application. Assist in preparation of evidence, filings before the Northwest Territories’ Public Utilities

Board, and related issues. Appear before PUB as expert in cost of service and rate design matters, and on system planning (Required Firm Capacity) review.

- **For Manitoba Industrial Power Users Group (1998-present)**, prepare analysis and evidence for regulatory proceedings before Manitoba Public Utilities Board representing large industrial energy users. Appear before PUB as expert in cost of service and rate design matters in rate proceedings, as well as cost-of-service methodology hearing. Assist in regulatory analysis of the purchase of local gas distributor by Manitoba Hydro. Assist industrial power users with respect to assessing alternative rate structures and surplus energy rates.
- **For Industrial Customers of Newfoundland and Labrador Hydro (2001-present)**, prepare analysis and evidence for Newfoundland Hydro GRA hearings before Newfoundland Board of Commissioners of Public Utilities representing large industrial energy users. Appear before PUB as expert in cost of service and rate design matters.
- **For NorthWest Company Limited**, review rate and rider applications by Nunavut Power Corporation (Qulliq Energy), provide analysis and submission to rate review before Utility Rates Review Council.
- **For Nexen Chemicals, Inc. (2000)**, review options for subscribing to curtailable service rates.
- **For Columbia Power Corporation/Columbia Basin Trust and Municipal Interveners (2000)**, review evidence and prepare analysis on major transmission line project for Public Convenience and Necessity hearing before the British Columbia Utilities Commission.
- **For the City of Yellowknife (1999)**, prepare preliminary analysis of policy options and planning process for development of a municipal piped propane distribution system.
- **For the Government of the Northwest Territories (1999)**, prepare analysis of policy alternatives to facilitate supply of natural gas to local communities in the event of a Mackenzie Valley pipeline being constructed.
- **For INCO Manitoba Division (1998-present)**, prepare analysis of energy costs under various alternative industrial rate options. Provide recommendations on preferred energy rate options.

Socio-Economic Impact Assessment and Mitigation

Provide support in development of local investment opportunities or socio-economic impact mitigation programs for energy projects, including northern Manitoba, Yukon, and NWT. Socio-economic assessment work related to forestry planning in Manitoba and Saskatchewan. Support to two local communities in development of negotiation position for resolving outstanding compensation related to hydro projects in Northern BC. Also conducted assessment of socio-economic impacts of policy options for floodplain management, and strategic planning for resource management board.

- **For Northwest Territories Energy Corporation (2003-present)**, provide analysis and support to joint company/local community working groups in development of business case and communication plans related to potential new major hydro and transmission projects.
- **For Kwadacha First Nation and Tsay Keh Dene (2002-2004)**: Support and analysis of potential compensation claims related to past and ongoing impacts from major northern BC hydroelectric development. Review assessment of options related to energy supply, including change in management contract for diesel facilities, potential interconnection to BC grid, or development of local hydro.
- **For Manitoba Hydro Mitigation Department (1999-2002)**, provide analysis and process support to implementation of mitigation programs related to past northern generation projects. Assist in preparation of materials for church-led inquiry into impacts of northern hydro developments.
- **For International Joint Commission (1998)**, analysis of current floodplain management policies in the Red River basin, and assessment of the suitability of other floodplain management policies.
- **For Nelson River Sturgeon Co-Management Board (1998 and 2005)**, an assessment of the performance of the Management Board over five years of operation and strategic planning for next five years.

Government of the Northwest Territories

Yellowknife, NT

1996 - 1998

Land Use Policy Analyst

Conducted research into protected area legislation in Canada and potential for application in the NWT. Primary focus was on balancing multiple use issues, particularly mining and mineral exploration, with principles and goals of protection.

1996 - 1998

Researcher

Conducted research on surface rights allocation and access for mining, with particular emphasis on implications of government actions undermining mineral rights tenures. Also undertook analysis of Manitoba's Registered Trapline System and implications for Aboriginal trappers; also, an economic assessment of the property rights system inherent in the provincial Registered Trapline System policy and its implications on efficiency in allocation of the furbearer resource.

PUBLICATIONS:

Government Withdrawals of Mining Interests in Great Plains Natural Resources Journal. University of South Dakota School of Law. Spring 1997.

Legal Framework for the Registered Trapline System in Aboriginal Trappers and Manitoba's Registered Trapline System: Assessing the Constraints and Opportunities. Natural Resources Institute. 1997

Land Use and Protected Areas Policy in Manitoba: An evaluation of multiple-use approaches. Natural Resources Institute. (Masters Thesis). 1998

Electrical Rates in Yukon. Submission by Yukon Development Corporation to Yukon "Government Leader's Economic Forum Series" on Tax Reform and Competitiveness. 1999.

Review of Red River Basin Floodplain Management Policies and Programs. Prepared for Red River Basin Task Force of the International Joint Commission. 1998.

Curriculum Vitae

for

BILLINTON, Roy

ACADEMIC CREDENTIALS:

B.Sc., University of Manitoba, 1960, College of Engineering, Electrical Engineering.
M.Sc., University of Manitoba, 1963, College of Graduate Studies, Electrical Engineering.
Ph.D., University of Saskatchewan, 1967, College of Graduate Studies and Research, Electrical Engineering.
D.Sc., University of Saskatchewan, 1975, College of Graduate Studies, Electrical Engineering.

APPOINTMENTS:

Assistant Professor, 1964, Department of Electrical Engineering.
Associate Professor, 1967, Department of Electrical Engineering.
Professor, 1971, Department of Electrical Engineering.
Department Head, 1976, Department of Electrical Engineering.
Assistant Dean, 1984, Research and Extension, College of Engineering.
Associate Dean, 1986, Graduate Studies, Research and Extension, College of Engineering.
Acting Dean, 2001 College of Engineering.
Emeritus Professor, 2003, Dept of Electrical Engineering.

HONOURS:

Institute of Electrical and Electronic Engineers McNaughton Gold Medal, September 1994.
University of Saskatchewan Distinguished Researcher Award, October 1993.
Outstanding Engineering Educator Award, IEEE Canada, 2001.
Outstanding Power Engineering Educator Award. IEEE, July 1992.
First Recipient of the Canadian Electrical Association Distinguished Service Award - non utility category, Centennial Meeting, Toronto, May 1991.
Association of Professional Engineers of Saskatchewan Engineering Achievement Award, 1986.
Fellow, Engineering Institute of Canada, 1981.
Fellow, Safety and Reliability Society (U.K.), 1988-2002.
Fellow, Royal Society of Canada, 1980.
Fellow, Institute of Electrical and Electronic Engineers, 1978.
Fellow, Canadian Academy of Engineering, 1999
Saskatoon Engineer of the Year, 1978.
Engineering Institute of Canada, Ross Medal, 1972.
Engineering Institute of Canada, Sir George Nelson Award, 1965, 1967.
University of Manitoba Gold Medal, 1960.

THESES SUPERVISED OR CO-SUPERVISED

38 Ph.D. Students
81 M.Sc. Students

BOOKS, CHAPTERS IN BOOKS, EXPOSITORY AND REVIEW ARTICLES

- R. Billinton and W. Li. Reliability Assessment of Electric Power Systems Using Monte Carlo Methods. Plenum Press, 1994.
- R. Billinton, R.N. Allan, L. Salvaderi, January 1991. Applied Reliability Assessment on Electric Power Systems, IEEE Press, New York.
- R. Billinton, R.N. Allan, March 1988. Reliability Assessment of Large Electric Power Systems. Kluwer Academic Publisher.
- R. Billinton, R.N. Allan, 1984. Reliability Evaluation of Power Systems. Plenum Press. New York. Second Edition, 1996.
- R. Billinton, R.N. Allan, 1983. Reliability Evaluation of Engineering Systems. Plenum Press. New York. Second Edition 1992.
- R. Billinton and C. Singh, 1977. System Reliability Modelling and Evaluation. Hutchinsons Educational Press.
- R. Billinton, R.J. Ringlee and A.J. Wood, 1973. Power System Reliability Calculations. MIT Press.
- R. Billinton, 1970. Power System Reliability Evaluation. Gordon and Breach Science Publishers.

PAPERS IN REFEREED JOURNALS AND CONFERENCES AS AUTHOR OR CO-AUTHOR

486 papers in such journals as the IEEE Transaction on Power Systems, Journal of Electrical Power and Energy Systems, Canadian Electrical Association Transactions, IEE Proceedings, Journal of Reliability Engineering, and Canadian Electrical Engineering Journal.

Over 360 papers published in Conference Proceedings in Canada, U.S.A., UK, France and other countries.

INVITED LECTURES OUTSIDE U OF S AND INVITED CONFERENCE PRESENTATIONS

Opening addresses at major conferences in South Africa Saudi Arabia, Sweden,
England and U.S.A.

Reliability Lectures have been given to the following:

Abu Dhabi Water and Electricity Authority
Hydro Quebec
Ontario Hydro
New York Power Pool
New England Planning Pool
New Brunswick Power Commission
Manitoba Hydro
Saskatchewan Power Corporation
Alberta Power Ltd.
B.C. Hydro
University of Manchester Institute of Science and Technology
Royal Institute of Technology, Stockholm
Electrobras Brazil
University - Simon Bolivar, Venezuela
Imperial College, London
Scottish Electricity Board
ESCOM - South Africa
Swedish State Power Board
Imatra Voima - Finland
Chunqing University, China
RAM Conference Tutorials (1978-1990)
Institute of Minerology and Petrology, Saudi Arabia
Argonne National Laboratory
Centre for Professional Advancement
Decision Systems Incorporated
Inner Mongolia Engineering College, China
Tabiat Moderas University - Tehran
New England Power Planning
Philadelphia Electric
Pakistan Power Plan Project
San Diego Gas and Electric
Idaho Power
Electric Power Research Institute
TransAlta Utilities Corporation
Iceland Institute of Continuing Education
Western System Coordinating Council
Electricity Generating Authority of Thailand

CONSULTING WORK UNDERTAKEN

President Power Comp. Associates
- general consulting in the power system field.

Consulting Work Done For

New Brunswick Power Commission
Hydro Quebec
Ontario Hydro
Manitoba Hydro
Saskatchewan Power Corporation
Alberta Power Limited
B.C. Hydro
Atomic Energy of Canada
City of Saskatoon
H.G. Acres Ltd.
Department of Industry, Trade and Commerce
Ontario Ministry of Transportation
Public Service Gas and Electric Co. Ltd.
Ontario Energy Board
California Energy Commission
Alberta Gas Trunk Lines Ltd.
Montreal Locomotive Works
Unies Ltd.
Westinghouse Electric Ltd.
New York Power Pool
Abu Dhabi Water and Power Authority
TransCanada Pipelines
New England Power Pool
Niagara Mohawk Power Company
Industrial Power Consumers Association of Alberta
Electric Power Research Institute
TransAlta Power Corporation
Nova Corporation
Northwest Territories Power Corporation
Saudi Consolidated Electric Company
Electricity Generating Authority of Thailand
Bonneville Power Administration
San Diego Gas and Electric
Consolidated Edison – New York
Alberta Electric System Operator
PJM Interconnections
ESKOM-South Africa

PROFESSIONAL AND ASSOCIATION OFFICES AND COMMITTEE ACTIVITY OUTSIDE UNIVERSITY

Chairman, CEA Engineering and Operating Division, 1980-82
Chairman, CEA Power System Planning and Operating Section, 1978 to 1980
Chairman, CEA Power System Reliability Subsection, 1965 to 1980
Chairman, CEA Power System Reliability Subsection, 1985 to 1995
Member, CEA Consultative Committee on Outage Statistics, 1975 to present
Chairman, CEA Consultative Committee on Outage Statistics, 1984 to present
Member, CEA Distribution Reliability Committee
Member, IEEE, Application of Probability Methods Subcommittee, 1964 to present
Chairman, IEEE Application of Probability Methods Subcommittee, 1976 to 1979
Member, IEEE Power System Engineering Committee, 1972 to present
Member, Association of Professional Engineers of Saskatchewan, 1964 to present
Member, Engineering Institute of Canada, 1960 to present

OTHER IMPORTANT ITEMS WORTH REPORTING

Member of the Public Utilities Review Commission for the Province of Saskatchewan,
1984 to 1987
Chairman of the Saskatchewan Electrical Options Review Panel, 1990-91
Member of the Transmission Administrator Advisory Panel for the Province of Alberta,
1996-97